

Regenerating Detroit [Analyzed]

An Honors Thesis (HONR 499)

by

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ABSTRACT

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This thesis explores the social impact a new pedestrian bridge linking the Eastern Market with a severely distressed community to its east could bring to Detroit Michigan. This project stems from an ARCH 302 competition project that I worked on with my colleague, Morganne Walker. The competition required us to design a steel pedestrian bridge and have a pavilion containing an auxiliary program. For our site we chose to connect Detroit's Eastern Market, an active farmers market, with a neglected, dilapidated neighborhood. With our auxiliary program of an urban agriculture supply hub, we intend to encourage urban farming on the vacant lots in the vicinity of the pavilion. This thesis determines whether this project could make an impact of the declining city of Detroit, and demonstrates how revitalization is possible in a place so devastated, so that the community can stand by their city motto proudly, "We Hope for Better Things; It Shall Rise from the Ashes."

REGENERATING
DETROIT
[ANALYZED]

SHANNON BUCHANAN

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Second, I would like to thank Morganne Walker for being my partner for “Regenerating Detroit,” for being my ‘bestie’ for the past two years, and for lending me her camera.

Finally, I would like to thank my family and roommate, especially my mother, for pressuring me to finish my thesis. Without their constant reminders, this probably would not be finished.

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INTRODUCTION

Due to institutional abandonment, Detroit's urban landscape has succumbed to economic distress and ritualistic abuse. Amid this gradual decline, faithful citizens refuse to believe that Detroit is beyond saving, maintaining hope that their city will "Rise from the Ashes." Acknowledging this hope encourages people to take a second look at the city's more neglected regions to rejuvenate the essence of what has been lost from decades before and reconnect the disjointed pieces of a fragmented city. The bridge weaves through the heart of the Eastern Market as a sinuous steel thread upon which pedestrians discover a renewed energy of growth. The form curves to infuse an organic spirit into the hardened cityscape. Elevated above the city streets, visitors experience the flaws and history of the timeworn urban infrastructure. To revitalize this community, an auxiliary pavilion adjoining the bridge provides an urban agriculture supply hub and education facility, which loans supplies to local citizens to entice them to garden/farm in the area. This pavilion sits within an abandoned warehouse located along the Dequindre Cut. This quarter-mile-long journey brings long-overdue regeneration to a distressed neighborhood by reintroducing a sense of pride to the people.

These are the words that Morganne Walker and I used on our design titled "Regenerating Detroit." This was a competition project we completed in our third year as architecture students. It is one of the few projects that I will remember long past graduation. It awakened in me a passion for hope. A drive to help the world that is so oftentimes falling apart around us.

Through visiting the city and learning about its evolution and devolution



Figure 1: Graffiti at the Packard Plant in Detroit, taken in March 2013.

through film and books, I developed a connection with a city in which I have never lived in. A city I probably will never live in. Working on this project has changed my outlook on life and architecture. Before “Regenerating Detroit” I saw architecture as stagnant, I had lost my motivation to continue with it. While we were designing, I realized that the reason I had such a quiet, stationary view of architecture was due to the simple fact that I had forgotten about the people.

The people of any place play a significant role in how that space functions. Working on this design exposed me to the history of this crumbling city, it showed me its roots and explained to me why it is in its current state. It has been said that “Detroit is a symbol of how giants fall” (*American Revolutionary*). The past few decades have issued fatal blows to the once thriving powerhouse of the United States. The history has shown me the hope that can live within those who have lost so much.

The city has been tattooed in graffiti that illustrate its struggles. These drawings show all who pass that it is a city trying to hold on to what it can, “to make



Figure 2: Graffiti at the Packard Plant in Detroit, taken in March 2014.



Figure 3: Mural near the Eastern Market, taken in March 2014.

a way out of no way” (qtd. in Dotson 31) They are marks of desperation and marks of revival. They are attempting to help Detroit live up to its motto, and it will “rise from its ashes”.

HISTORICAL CONTEXT

The city of Detroit was founded in 1701 and is one of the oldest cities within the Midwestern United States (Quaife). Detroit, like many other American cities experienced a lot of growth over the centuries. At the beginning of the twentieth century, the city boomed at an accelerated rate. This was the result of the beginnings of automobile manufacturing. In 1913, Henry Ford stream-lined the process of car assembly, allowing him to mass produce vehicles (Ford's). This led to an increase in car sales that attracted other motor companies as well, such as General Motors. As a result of this industry's success, the population steadily grew, and with that the industry grew as well. During the world wars the car plants in Detroit were repurposed as war material manufacturers. The war caused many men to go overseas to fight, and resultantly left woman and African American men in the bulk of the manufacturing jobs, but when the war ended and the soldiers came back, many people lost their jobs. At its peak in 1950, Detroit was the home to 1.9 million people, whereas now, based on the 2010 census and subsequent projections, Detroit houses less than 700,000 ("Detroit"). These astonishing statistics cause one to question, "why did all of the people leave?"

After 1950, the population slowly started to decline because of the decentralization, automation, and use of overtime in the auto industry (Sugrue 141). Decentralization is the act of the plants moving further and further away from the headquarters. It could mean moving a plant to the suburbs, or even to a different state. Many industries decentralized and began to cover the entire Midwest. Additionally, the federal government encouraged, supported, and facilitated the phenomenon that eventually became known as suburban sprawl,

Comparing Detroit to three other major cities

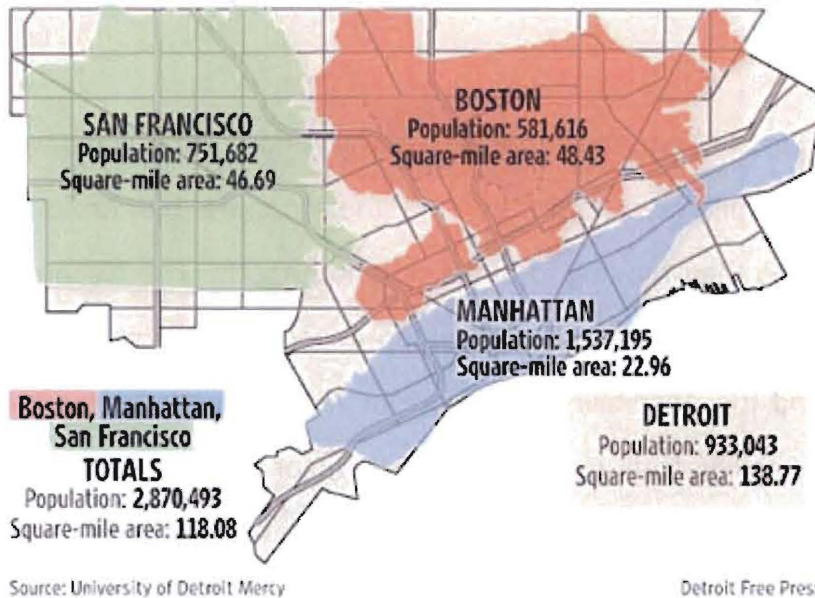


Figure 4: Map of Detroit illustrating its vast area. (Comparing)

in case of air raids during World War II and then again during the Korean War (Sugrue 140). The immense sprawl left Detroit with lands vaster than its current boundaries. The current city limits can fit San Francisco, Boston, and Manhattan in it, in regards to land area (*DeForce*). (Figure 4) Despite its sprawling configuration, Detroit proper, which was once the fourth most populous city in the United States, is now eighteenth in regard to city population. ("Top"). Another aspect that led to the decline was automation in industry. This was a result of new technology being implemented into the car industry that eliminated the need for smaller jobs. A third aspect was the use of overtime. By allowing the workers to work later hours at higher wages, the auto industry saved money because they did not need to hire as many people, or train them.

In addition to the auto industry, racial tensions also contributed to the decline. According to Thomas Sugrue, the people most resistant to integration were working class white Catholics (235). Racial tensions appeared in the auto industry and in

the housing market. Because of racism, many African Americans were confined to slums, and despite how hard they tried, the structural barriers on the housing market prevented their moving to better neighborhoods. The discordance among Detroit citizens led to revolts that were suppressed by the authorities. These acts of violence, and the possibility of having an African American neighbor caused those with the ability, to flee. Detroit was a major participant in the practice of white flight-- The act of white Americans transplanting their lives because of their irrational fears on integration.

Today, as a result from racial tensions, Detroit's population is predominantly African American. The combination of drastic population shrinkage and vast land area has caused the city's infrastructure to crack. The drastic population decline Detroit's budget cuts over the past few years have led to slower police, ambulance, and fire fighter response times. These changes have caused abandoned buildings to be left to burn away because it would requires more resources to fight it than to let it run its course. Detroit has consistently been named as one of the top ten most dangerous cities in the United States. This intense violence has caused the city to spend more on incarceration than on higher education (*DeForce*). In 2013, the city declared bankruptcy and was granted twenty four million dollars by the federal government to be used to immediately hire 150 firefighters (*Spangler*) The future of the city remains uncertain.

The essential factors in Detroit's decline were the auto industry and racial tensions. Both of these reasons led the city to what it is today, a crumbling tower that once held all of the power.

REGENERATING DETROIT

INTRODUCTION.

Regenerating Detroit's beginning was just another studio project. Except this time it was to be a competition. To set the parameters of the project, it was aligned with the 2012-2013 ACSA/AISC (Association of Collegiate Schools of Architecture/ American Institute of Steel Construction) student design competition, following category one "Building to Bridge." While the program, to design a bridge with a pavilion, provided as part of the assignment, we were given a few options for our site. Our options were to design a bridge for an airport in Buenos Aires, Argentina; design a health clinic for the homeless in Santa Monica, California; utilize an abandoned railroad truss in Muncie, Indiana, off of the Cardinal Greenway; or design a bridge in the Eastern Market region of Detroit, Michigan. Out of these possibilities, the Detroit site caught my friend Morganne Walker's and my eyes. After the initial presentation of the program and site options, Morganne and I decided to become partners on the project.

We began the design process by thoroughly reading through the competition brief which outlined all the regulations for submitting a design. The brief stated that it will have architecture students design a "pedestrian bridge that will enrich its location and provide a vital spatial connection" (2012-13). Since the competition was sponsored by the AISC, the American Institute of Steel Construction, it was required that the main building component be steel. The bridge must also have an additional function that encourages people to use it. As far as the pavilion goes, it must "create a destination and support the cause for crossing" (2012-13). The brief



Figure 5: Empty lots in a neighborhood near the Eastern Market.



Figure 6: Detroit's thriving Eastern Market.

states that it could be anything that “serves to explain and enhance the location and the experience of crossing” (2012-13)

SITE.

When we started the competition, we only had a vague notion of the current state of Detroit. To help us understand the city, we embarked on a day trip to visit the site. In preparation for the trip and project, we had watched a few films on Detroit, even so, they did not prepare us for what we saw. What we saw will stay with us forever. There was an abundance of industrial abandonment, everywhere we looked we saw an empty, often charred, structures. The city blocks that had been brimming with homes in their heyday, are now diminished to a couple up-kept structures which are surrounded by fields of decay. Figure 5 depicts a neighborhood to the east of the Eastern Market, where the majority of the block was comprised on empty lots.

The trip also showed us a variety of locations in which we could design our bridge all located around the thriving Eastern Market (Figure 6). The first site option was at the southern end of the market. The bridge was to span across the interstate, possibly replacing an already existing pedestrian bridge (Figure 7). The second site was to the east of the market along what is known as the Dequindre Cut. The Dequindre Cut is essentially an abandoned rail line that ran through Detroit (Figure 8). The third option was to connect an abandoned public housing complex on the west side of the site to the Eastern Market, in hopes of sparking redevelopment in that area (Figure 9).



Figure 7: Detroit site option 1.

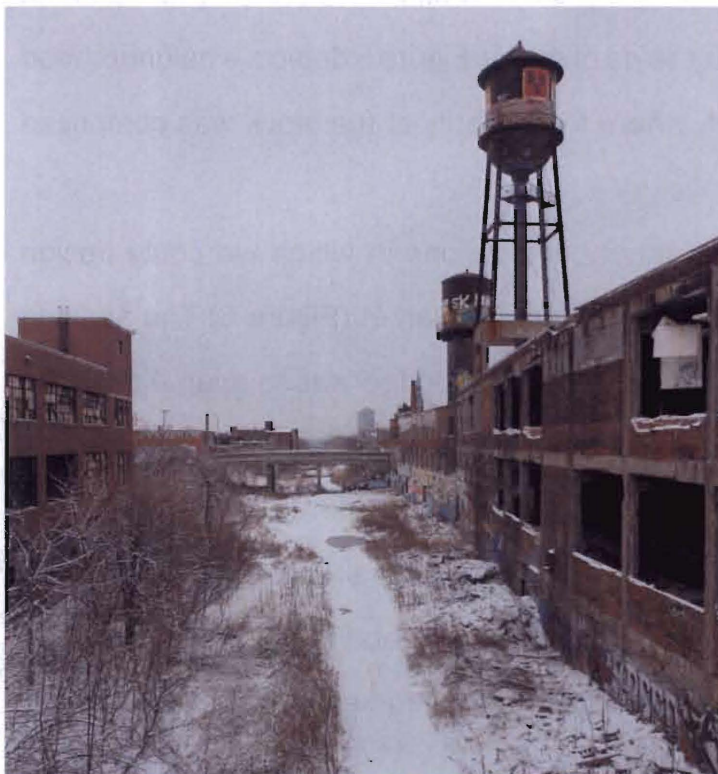


Figure 8: Detroit site option 2.



Figure 9: Detroit site option 3.

After surveying all three locations, Morganne and I decided to work with option two, the Dequindre Cut. The site has both advantages and challenges. A benefit is the close proximity to the market with the challenge of many derelict buildings blocking direct access. Another benefit was the connection to a residential neighborhood, with the challenge that it is dwindling. The diagram in figure 10 illustrates the density of the surrounding area with the cross shaped structures depicting the Eastern Market from above and the s-shaped structure showing our proposed bridge. The market is surrounded by many local restaurants and shops feeding off of the popularity of the market. The eastern part of the map shows a much sparser region. It contains a spread out residential area, a few commercial buildings, and a school right next to the Dequindre Cut. This is the region we strove to link. Through planning, we were able to overcome the challenges of the site.

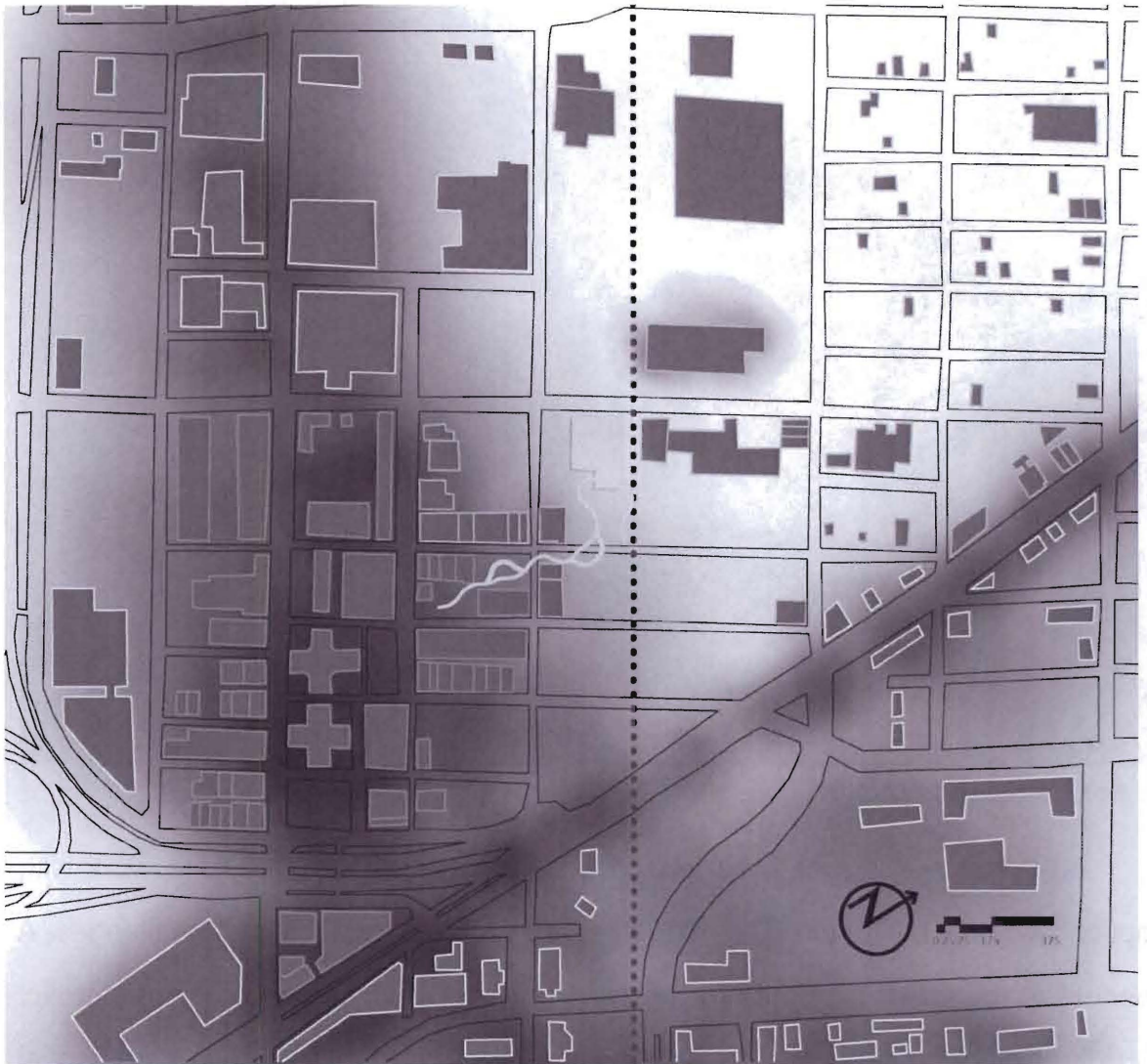


Figure 10: Diagram illustrating the density around the Eastern Market.

The connecting point between the residential and the Eastern Market is the Dequindre Cut. Along much of this line are many abandoned industrial and commercial structures that have been slowly deteriorating over time, as can be seen in figure 8.

PAVILION.

When approaching the design we took a day to think about, not what we wanted to design, but what Detroit needs. We brainstormed a long varying list

including a museum, a health clinic, a bike garage, a dog park, an art gallery, and a restaurant. In the end we decided to do something related to urban agriculture.

Urban agriculture, or urban farming, is the act of utilizing urban spaces for food production and distribution. According to the Environmental Protection Agency (EPA),

Urban agriculture is an important source of environmental and production efficiency benefits. The use of best management practices and integrated farming systems protect soil fertility and stability, prevent excessive runoff, provide habitats for a widened diversity of flora and fauna, reduce the emissions of CO₂, increase carbon sequestration, and reduce the incidence and severity of natural disasters such as floods and landslides. Decorative or scenic agriculture landscapes, waterways, and buildings provide numerous benefits including recreational activities, scenic views, and open space qualities. These positive benefits often merit assistance to producers such as technical and financial and other public support (What Is Urban Agriculture?).

Urban farms can be in a variety of locations varying from rooftops to abandoned lots.

Environmental movements within the past decades have promoted urban farming in all cities. Detroit itself has many urban farms scattered across the city's vast lands. Realizing that many city families would rather go to the gas station to get their dinner than a grocery store, due to having to travel quite a distance to find one, drew Morganne and I to this idea. We began thinking that the sparse

neighborhood would be the ideal location of an urban farm. Instead of just proposing a fully functioning farm for our program, we decided to engage in critical analysis about the topic. We began to inquire as to where the other farms obtain all the equipment to maintain their farm and thus had the idea of our program being a non-profit, urban agriculture hub. A place which lends out farming equipment to the local farms so that they can focus more on growing, than on trying acquire an expensive tilling machines and other equipment. Additionally, the hub would sell seeds and other non-reusable items to the community at a cheap rate to promote the idea further. The goal of the hub is to encourage the surrounding neighborhood to farm on their nearby vacant lands.

To supplement this program, we introduced an educational aspect. The close proximity to a local community school, Edison Public School Academy, sparked this idea. According to a Detroit News article, nearly three dozen children die a year in the city (Bouffard). With the theory that keeping kids off the street will reduce their susceptibility to crime, this program is for them. It is disheartening to see statistics on the children in Detroit. The goal of the educational program is to teach the children how to urban farm. We believe that if engaged in growing enough and encouraged enough, the children will grow to appreciate all that urban agriculture can do for them. (Figure 11) The education program, consists of an education center within the pavilion to be used for instructional and demonstration purposes, and also a series of learning gardens that will help the children learn about the different types of plants and growing conditions. (Figure 12) The learning gardens are built similar to urban gardens that exist on asphalted surfaces. Figure



Figure 11: Photomontage of the education aspect of the program.



Figure 12: Rendering of the Learning Garden.



Figure 13: Outside of proposed pavilion structure. left, March 2013. right, March 2014.



Figure 14: Inside of proposed pavilion structure. left, March 2013. right, March 2014.



Figure 15: Doorway inside of proposed pavilion structure. left, March 2013. right, March 2014.



Figure 16: Photomontage of the open-air arts market.

19 illustrates this method. The bottom layer is a waterproof membrane to keep moisture from creeping into the concrete, then a drainage layer and a filter fabric are added to prevent sediments from getting into the roof drains (“Green Roof Basics”). On top of this a layer of soil and plants complete the gardens’ construction.

After deciding on the program, the next step was to determine the structure that would house it. After much consideration, we chose to repurpose an existing, decaying building and use it as a template when designing. The building is an abandoned two story structure that used to be either a warehouse or an industrial building. During our daytrip, we explored the site and saw the potential in the building. Figures 13 through 15 show the structure back in March of 2013, when we first visited the site, and also show a visit from March of 2014 when I returned. Through our explorations, we discovered beauty in the dilapidation. It intrigued us

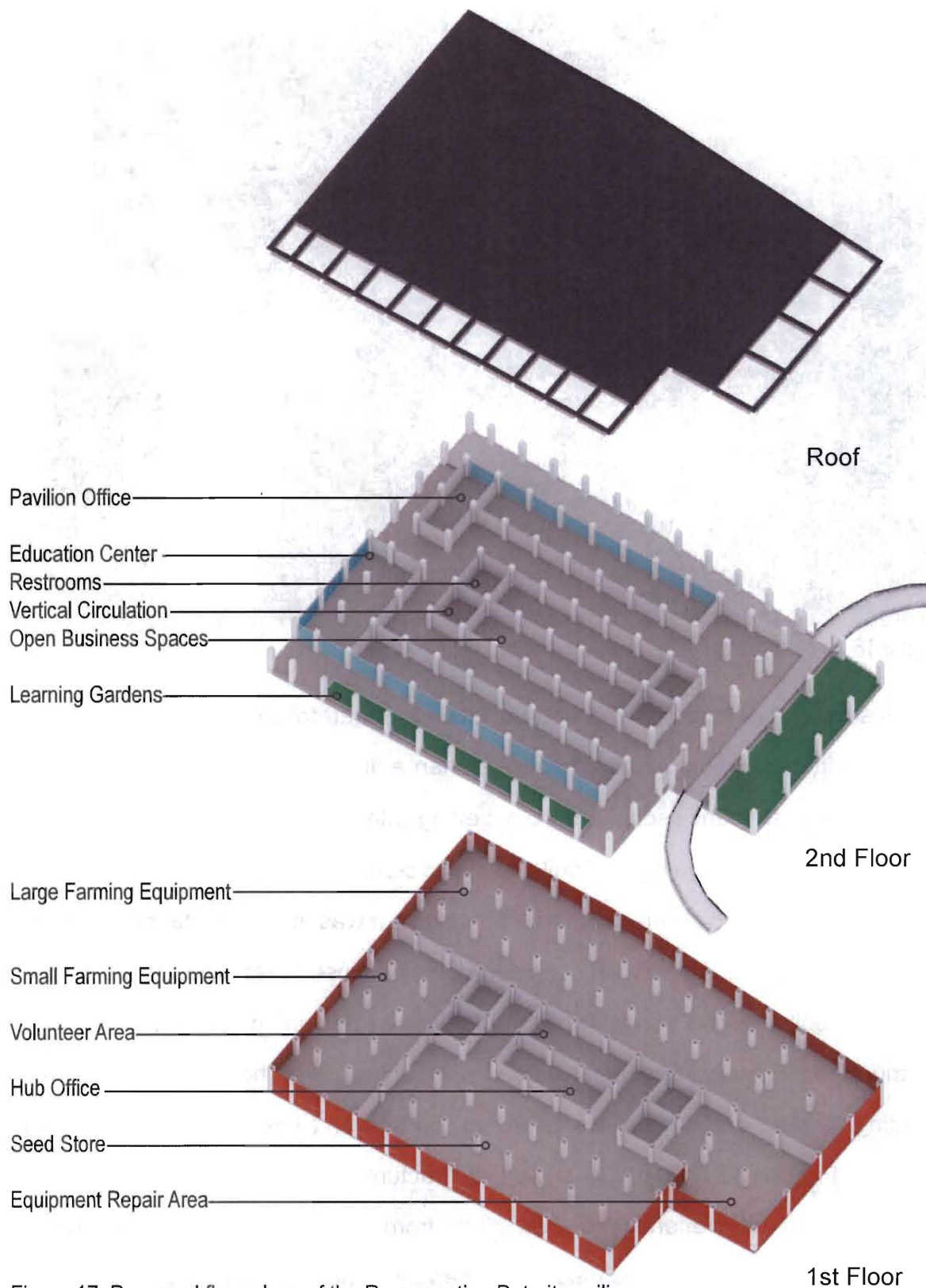


Figure 17: Proposed floor plans of the Regenerating Detroit pavilion.

immensely that such a large structure could be left to waste. (That is until we saw the Packard Plant and observed a much larger scale of abandonment.) While the continuing decay of the structure is evident, it is, for the most part, still intact. In 2013 when we visited, there were a few walls still holding on, but last March, of 2014, those few remaining walls have begun to tumble. According to the Portland Business Journal, sometimes reusing even just the old structure of a building cuts down on construction costs and is more sustainable than tearing down an old structure to build a new one (Dowty). With this in mind, we took over the structure and organized the program based on the existing bays.

The bottom floor of the building is to house the urban farming hub. To incorporate this program, the space has been divided up into sections: a section for large farming equipment, like tractors; a section for small farming equipment, like hoes and rakes; a repair shop, for maintenance on the machinery; a volunteer space, for meetings and breaks; an office, for administrative tasks; and a shop, to sell non-reusable things, like seeds, bulbs, and fertilizer.

The second floor will house the educational center and learning gardens. Because of the immense amount of space the proposed structure leaves us with, we decided to include another axillary program. It is an open air market that will sell art and other non-perishable items. In order to ensure the continuing success of the Eastern Market, it will prohibit the selling of food items. The hope is that the farmers market will guide citizens to buy more than just food locally. (Figure 16) Based on the bay layout, an “L” shape is designated for the educational aspects. The inside of this space, and along the Dequindre Cut is open to the art market.

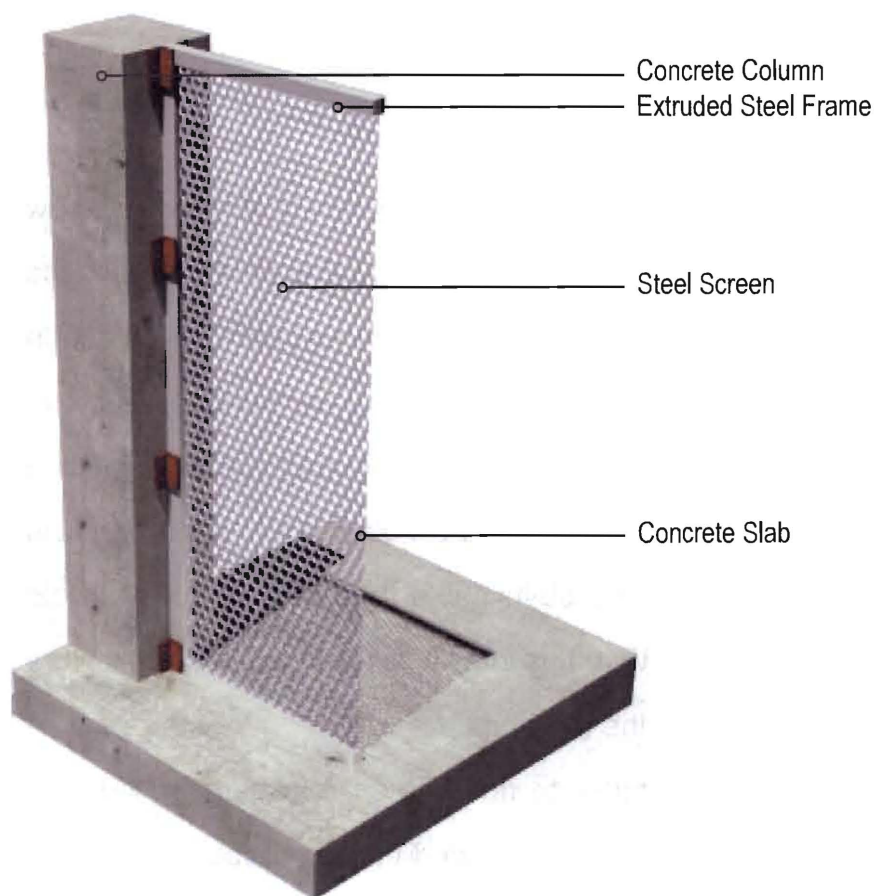


Figure 18: Screen wall detail.

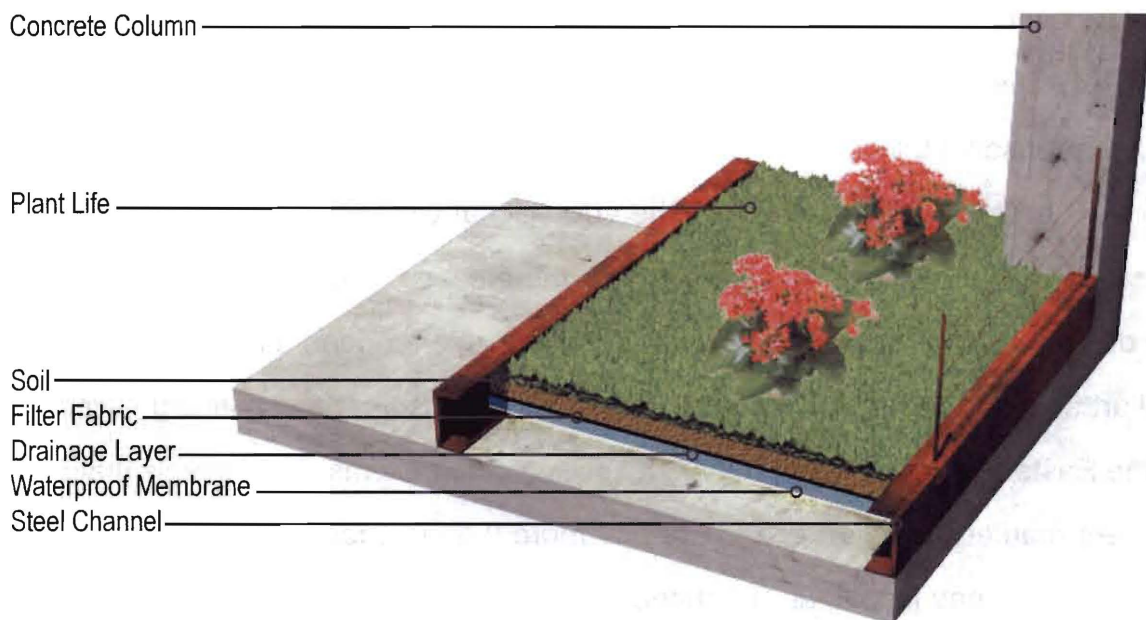


Figure 19: Learning garden construction detail.

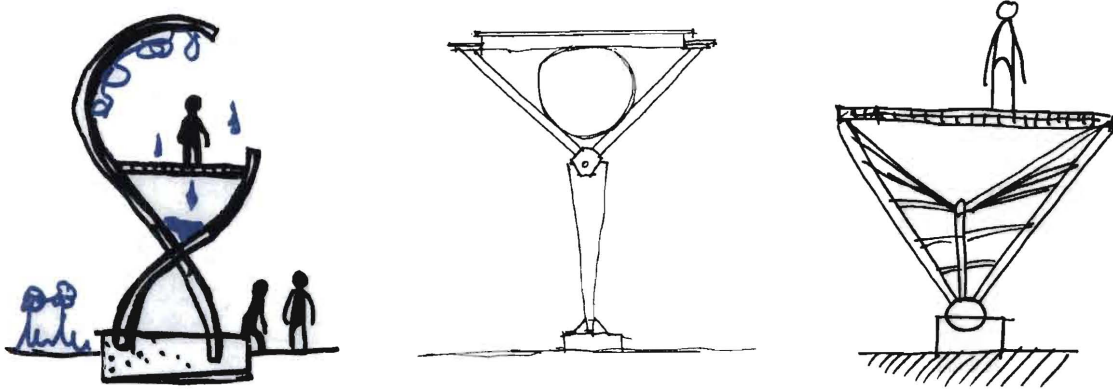


Figure 20: Process diagrams.

Figure 17 illustrates the floor plans of the pavilion. The main entrance to the structure consists of two ramps on the north end of the building. The north-eastern ramp links the street to the bridge, while the north-western ramp connects the community directly to the arts market and educational center. Across the street from this entrance is the school, granting the children easy access to the pavilion. To maximize the space, the stalls of the market surround two main hallways, both of these also have a connection to the bridge. Steel screens make up the walls of market area of the pavilion. We decided to use the screens as a means of keeping the space open, as well as to create partitions. These structures also double as a means for hanging up art pieces, as illustrated in figure 16. Figure 18 illustrates how these partitions connect to the concrete of the existing structure.

BRIDGE.

The south end of the pavilion is where the bridge plays in. Our bridge, the Regeneration Bridge, is the primary link between the Eastern Market and the nearby neighborhood. To make this connection more direct, Morganne and I evaluated the blocks that disconnect the two. Our study showed that many of the structures blocking our way were in shambles. We decided to imagine them



Figure 21: Bridge section.

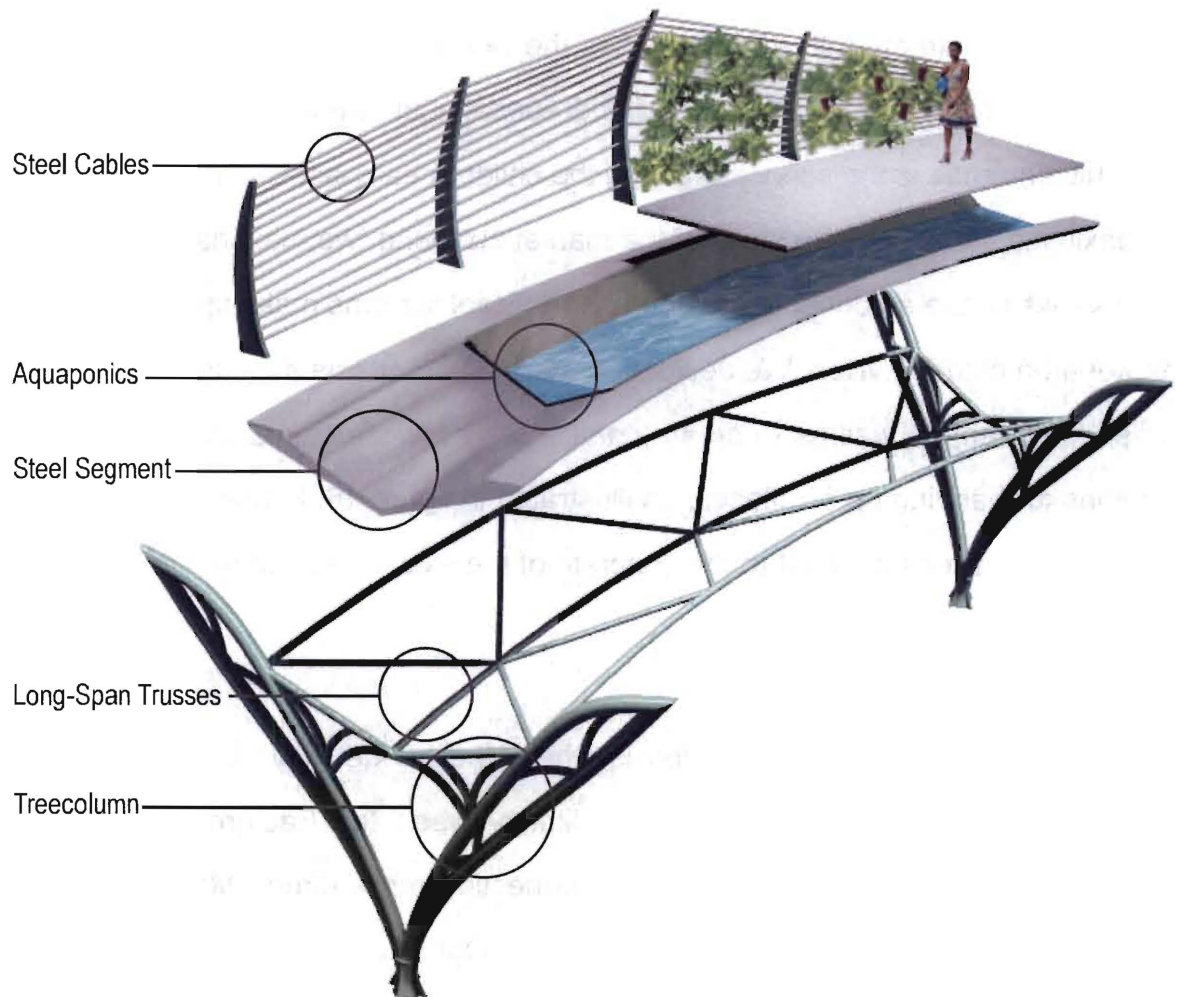


Figure 22: Exploded axon of Bridge construction.

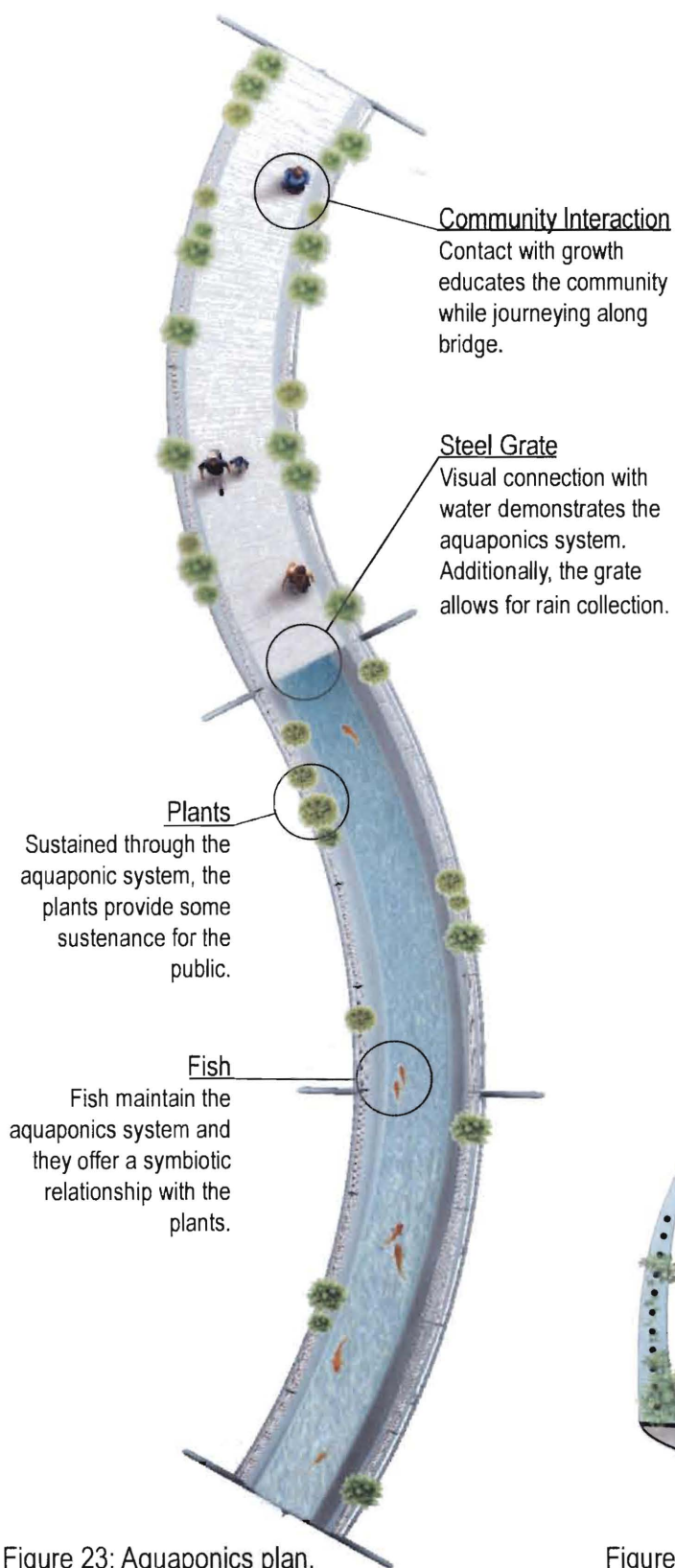


Figure 23: Aquaponics plan.

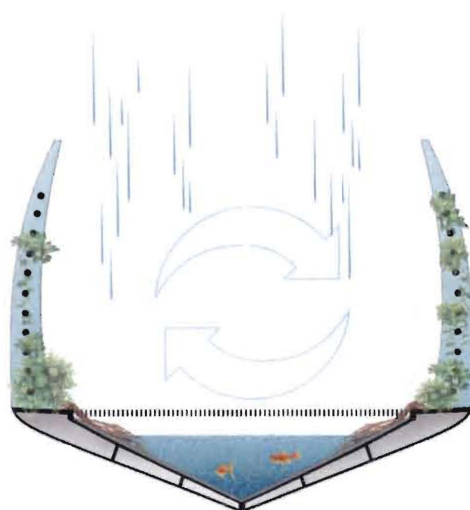


Figure 24: Aquaponics section.



Figure 25: Interaction on bridge.

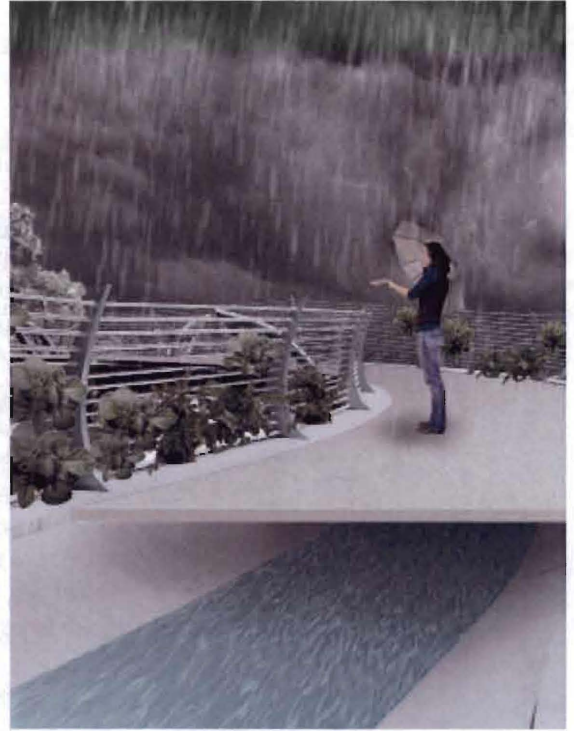


Figure 26: View of bridge when raining.

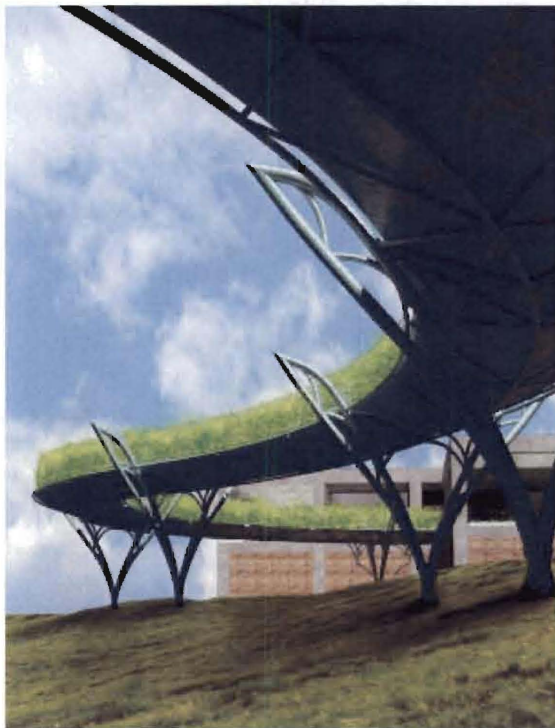


Figure 27: View of bridge from below.



Figure 28: View of bridge from sidewalk.

removed from the site, to make provisions for our bridge. Starting at the pavilion, the bridge branches to both the east and west. The east portion of the bridge goes down into the Dequindre Cut. We found it important to make this connection because in recent years, there has been a movement to create a bike path along the cut. Last year the path ended on the south end of the interstate overpass, when I returned this year, the construction on the path had already begun right outside of our proposed pavilion.

The west side of the bridge is the direct link to the Eastern Market. Besides the buildings being in the way, we faced another challenge. This was the significant elevation change between the second floor of the pavilion and the ground near the market. With the removal of the dilapidated buildings, our bridge was able to smoothly transition towards the market. To draw back to the urban agriculture theme, we decided to have our bridge also grow produce along its railings. This proposal resulted in additional challenges to overcome, the first being how the plant-life will grow. To address this problem we looked into soil-less growing methods. This led us to aquaponics, which is “a system of aquaculture in which the waste produced by farmed fish or other aquatic animals supplies nutrients for plants grown hydroponically, which in turn purify the water” (“Aquaponics”). We saw this as a great opportunity to have a relatively self-sustaining system.

After deciding the program of the bridge our next task was determining the structure that allowed for the curve we wanted. The form of the bridge was our longest struggle during this project. Figure 20 shows a few of our process diagrams. Our goal was to find a structure that was light, elegant, could support



Figure 29: Site plan.

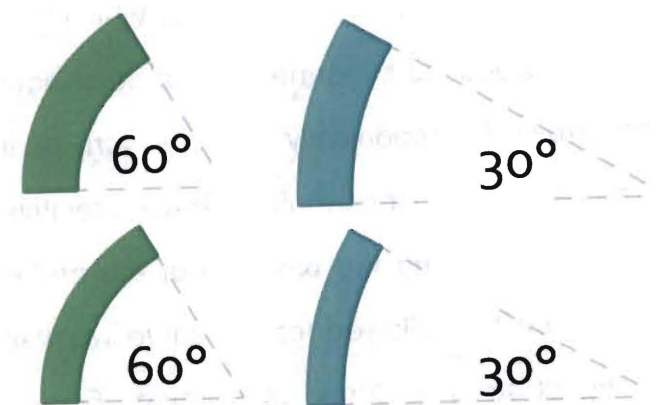
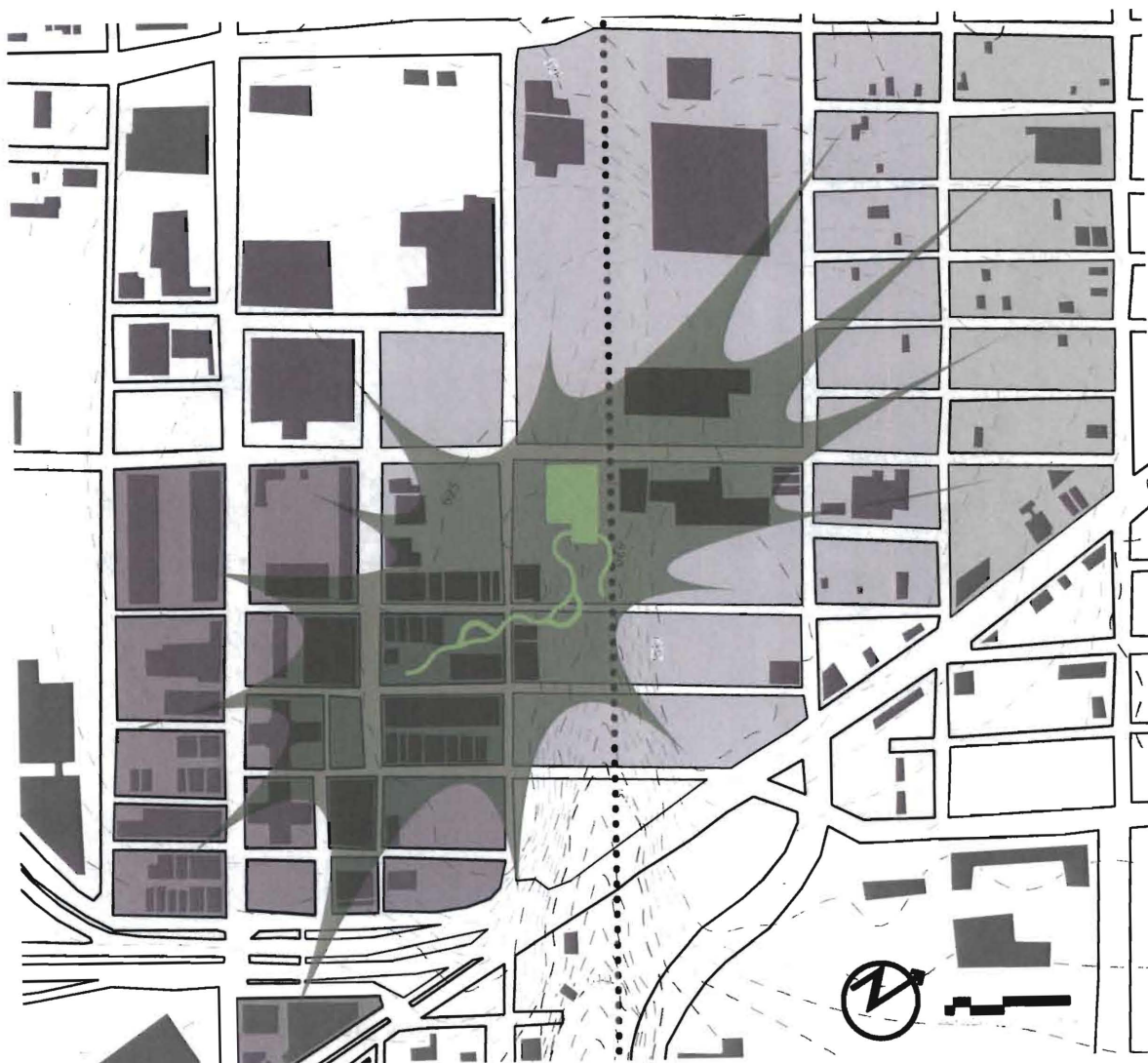


Figure 30: Kit of parts.



-  Existing Buildings
-  Eastern Market
-  Proposed Green Space
-  Regeneration Bridge and Pavilion
-  Context Connection
-  Dequindre Cut

Figure 31: Master plan.



Figure 32: Interaction with bridge.

the aquaponics system, and curve along our proposed path. We eventually came to our final structural design, shown in figure 22. The bridge consists of steel tree columns connected with long span trusses. Laid into these trusses are steel sheeting vessels that will hold the aquaponics system. Throughout our design process, we developed the idea of a bridge that encloses someone as they moved through it. It would not completely close up, but instead offer unique openings through the way the sides wave up and down. Figures 21 and 25 illustrate this idea well.

The aquaponics system within the structure had to be covered to enable human access along it, to solve this problem, we proposed steel grates that

securely hold up the visitor, while still allowing them to see the system working below them. Figures 23 and 24 show the different aspects of the system. Since the walkway is a covered grate, it also offered the opportunity for rain water collect, this can be seen in figure 26. Both figure 27 and 28 show how the bridge appears from the ground level. It demonstrates the light frame work that minimizes the footprint of the form.

After several iterations of the bridge following a curvilinear path, we realized that there were too many angles that would make every piece of the quarter-mile long bridge unique. This could have led to astronomical prices so we proposed that the structure follow a kit of parts. The kit consists of the four modules shown in figure 30. Figure 29 shows the kit spaced long the path. This option allowed us to traverse the site, while standardizing it. Figure 29 also shows, in dashed lines, the wasting structures that would be removed to make way for the Regeneration Bridge.

MASTER PLAN.

The master plan of the site, as seen in figure 31 illustrates our intentions for the impact of the bridge and pavilion on the site. The scarcity of buildings on the northeast side of the site, juxtaposed with our design proposal, clearly demonstrates our aim for the future of the district. We believe that by first educating the Detroit youth in urban agriculture, and second lending equipment to local farms that Detroit will become a greener city. The vacant lots around the site are prime locations for a start-up urban farm. The land is relatively clear, and the hub is next

door to it. Another goal depicted in the master plan is the connection we strive to create with both the Eastern Market and the Dequindre Cut. Both of these entities have a lot to offer the site. The Dequindre Cut will eventually allow people from the southern region of the cut to traverse into the market safely through passage on the Regeneration Bridge. The Eastern Market's popularity will ideally seep into the Regeneration Pavilion through the bridge as well.

ANALYSIS

Regenerating Detroit strives to offer the community a way to better itself. Through its urban agriculture program it hopes to green the currently vacant and dilapidated lots. Legally this could potentially lead to problems. According to the book *Reimagining Detroit*, “Detroit still lacks any zoning classification for urban farming, a deficit it shares with many other cities” (Gallagher 53). Without the proper zoning, the program would be susceptible to being shut down any day the city officials deem fit. On the positive side, “in a place like Detroit with so much vacant land and so little to fill it, community growers face virtually no threat of city officials making trouble for them” (Gallagher 53). This is simultaneously encouraging and disheartening. It is encouraging that the urban agriculture hub and the Regeneration Bridge would have few threats of being shut down, and disheartening because the city is not able to adequately monitor its vast properties. John Gallagher states that “Whatever the many benefits of community gardening and however enthused we grow over urban agriculture, the sheer size of Detroit’s empty space is likely to absorb community growers as Lake Michigan absorbs a passing shower” (Gallagher 61). Based on the scale of this massive city, the work of a few urban farmers is miniscule. This does not have to be a negative though, this is an opportunity for even more people to get involved and working towards a greener Detroit. According to an article in *Crain’s Detroit Business*, urban agriculture is the only private use that reduces the city’s maintenance expenses (Mogk and Kwiatkowski). So while it may be against planning ordinances to have an urban farm on a vacant lot, the city is saving money that would have gone to maintaining it, and when the city has over 90,000 empty lot, that cost is significant (Mogk

and Kwiatkowski). Figure 34 shows how many of the empty lands are located in clusters.

According to figure 34, the site of the Regenerating Bridge and Pavilion teeters on the edge of the deep green, 0%-9%, zone and the red, 73%-100%, zone. This indicates that the blight is more than the eye can imagine. Locating this design where it is proposed is an opportunity to stimulate the flow of occupied lands into the red zone. While doing so, the land will be utilized in a way that will give back to its community.

The education program proposed could make a big difference to the local children. An unnamed urban planner is quoted in Grace Lee Boggs' book saying that urban gardens "reduce neighborhood blight, build self-esteem among young people, provide them with structured activities from which they can see results, build leadership skills, provide healthy food, and a community base for economic development" (127). These benefits speak for themselves. Teaching kids about real-world things like plants is a way to teach children about life. According to Grace Lee Boggs, "self-transformation and structural transformation must go hand in hand" (15). Not only does the city need better running system, but it desperately needs better leaders. Leaders they can believe in, like ourselves. Grace Lee Boggs stated that "We are the leaders we are looking for" (159). Only we know what could improve our communities, since we live in them. Additionally, "at this point in the continuing evolution of our country and of the human race, we urgently need to stop thinking of ourselves as victims and to recognize that we must each become a part of the solution because we are each a part of the problem" (Boggs 29). Not

Vacant Lots As A Percentage Of All Parcels, By Block, 2009

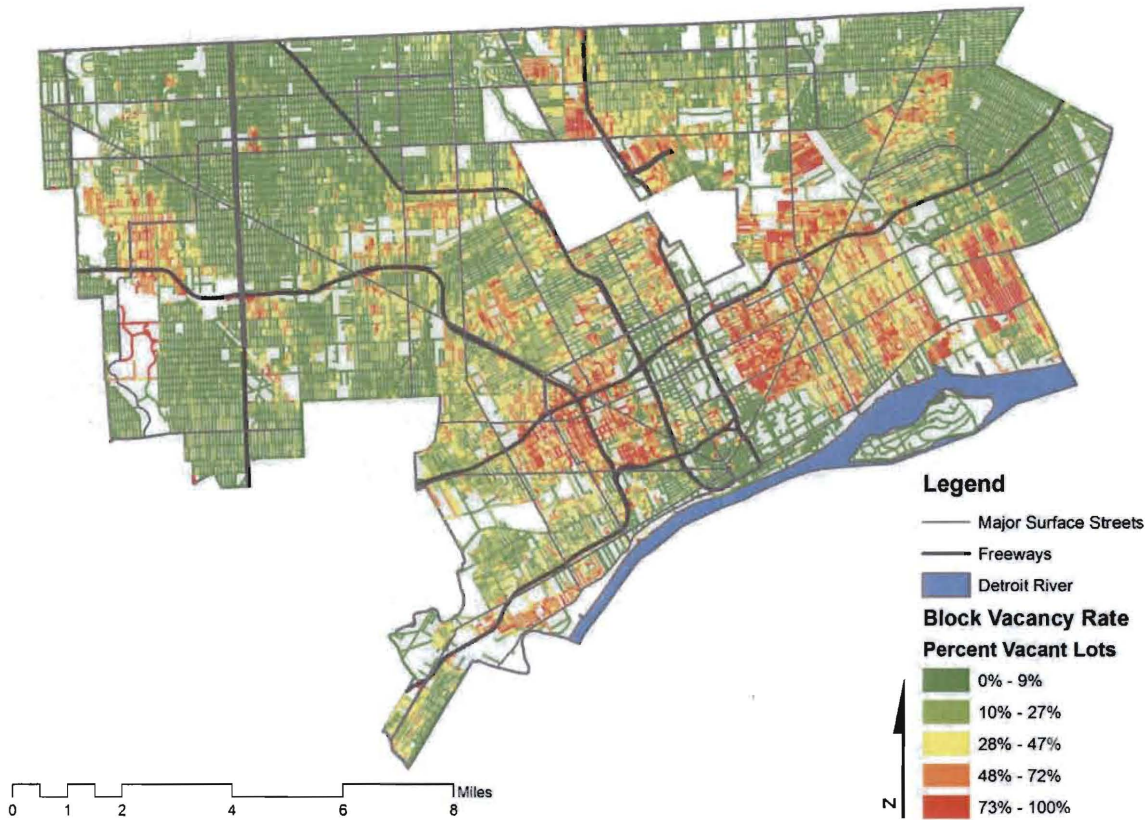


Figure 33: Vacant lots in Detroit (*Vacant*).

just one sect of people are to blame. Everyone has contributed in some way to the way society is. A major problem today is greed. Through these educational programs, it is believed that teaching these basic, almost primitive, life skills will encourage others to care more about the tasks at hand, than the newest iPhone that came out. In her book *American Revolutionary*, Boggs states

Instead of trying to bully young people to remain in class-rooms isolated from the community and structured to prepare them to become cogs in the existing economic system, we need to recognize that the reason why so many young people drop out of inner-city schools is because they are voting with their feet against an educational system that sorts, tracks,



Figure 34: “Spirit of Hope” Community Garden. (Main).

tests, and rejects or certifies them like products of a factory because it was created for the age of industrialization. They are crying out for another kind of education that gives them opportunities to exercise their creative energies because it values them as whole human beings (49 Boggs).

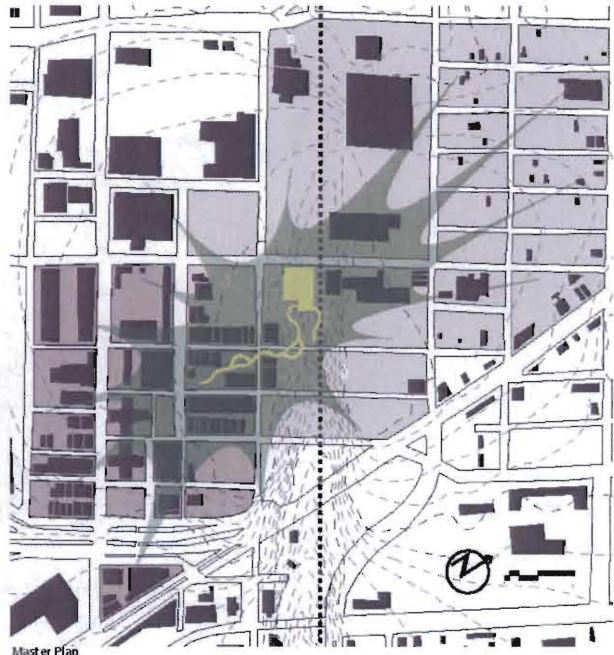
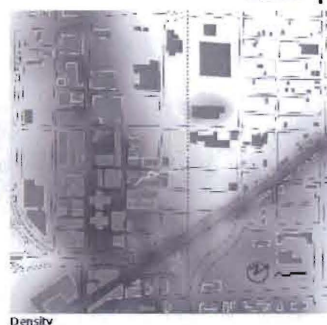
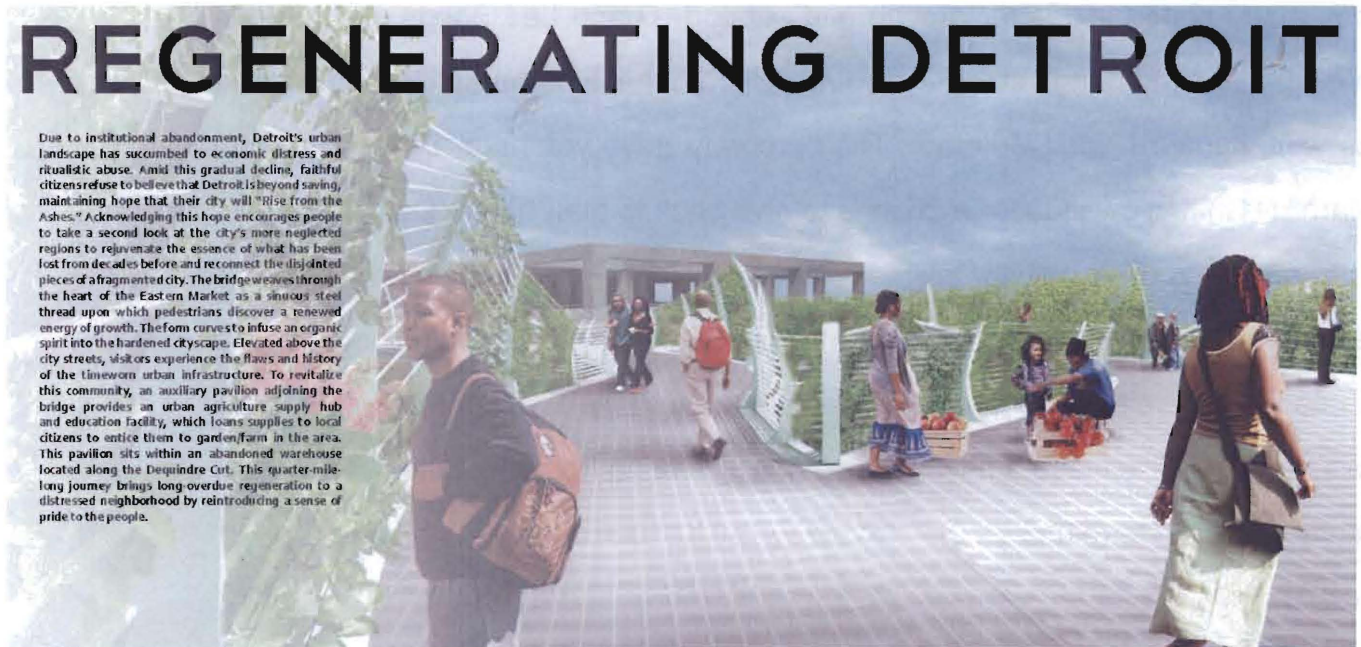
Boggs is arguing that the only fault in some children’s academic performances is that they are stuck in a standardized testing culture, and that the only way to help kids understand the world is to encourage them and to let them know that standardized tests mean nothing, if the person taking them is not a good person. This is an argument for another day, but the message she is getting across is that educating children outside of the classroom, in a hands on setting, can sometimes

be more beneficial than a traditional school setting.

Taking these points into consideration, the design Regenerating Detroit has many opportunities for growth and support. Grace Lee Boggs and her late husband, Jimmy Boggs created a youth program that incorporated urban farming as well, named Detroit Summer. Their program gave youths a “better reason to learn” (113) it allowed them a chance to give back to their home. Detroit Summer is characterized as having “planted seeds of Hope” (115). Hope is a powerful emotion. It leads to the anticipation of great beginnings. Regenerating Detroit is a chance to give hope to the depressed region near the Eastern Market. Through this hope, it will achieve a new beginning, it will “arise from the ashes,” as the city motto depicts (Detroit).

COMPETITION BOARDS

The following images are Morganne Walker and my competition boards as we submitted them to the ACSA competition.





Human Interaction

Steel cables along the bridge are utilized as vertical gardens.



Quarter-mile Journey

Rather than applying an architectural Band-Aid, the bridge strings together the urban fabric, spanning from the center of the Eastern Market to the edge of the Desquandre Cat.



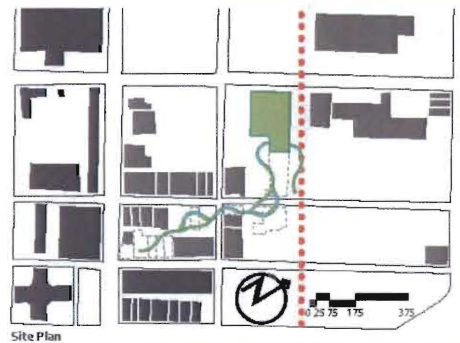
Rain Water Conservation

To support growth, rain water is collected along the bridge.



Process Diagrams

Through the concept of cradle, the area will evolve into a healthy destination. This idea flows into the design of the structure, with curvilinear truss members supporting the bridge. Running along the path, steel cables sustain an organic trail of plant diversity. The vegetation is fed through an aquaponic system developed within the bridge deck. Retaining precipitation and housing fish, the trough is maintained through natural processes.



Site Plan



Section



Exterior of Existing Pavilion Structure



Interior of Existing Pavilion Structure

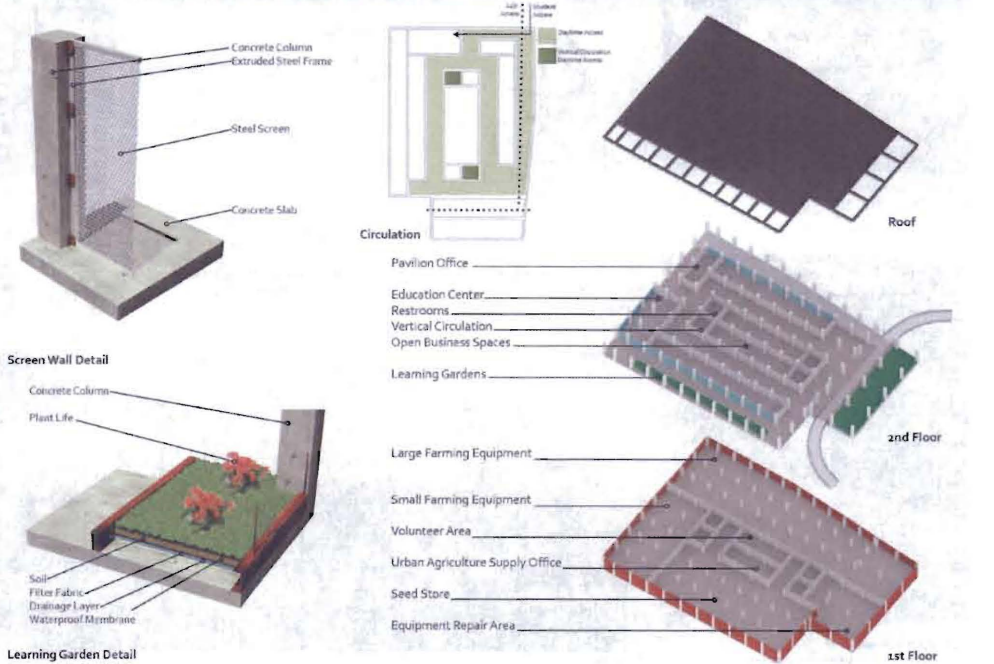


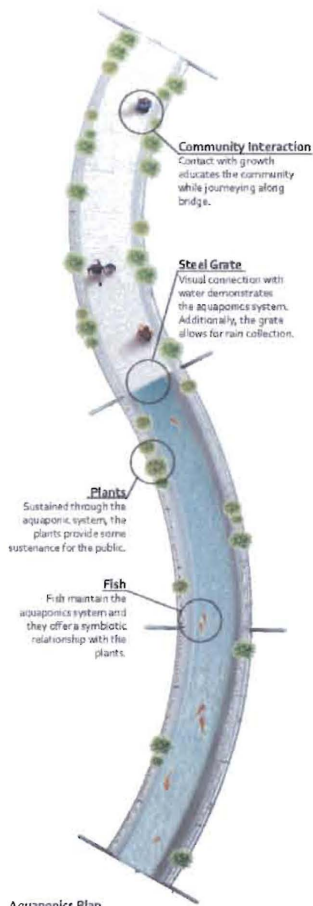
Interior Program Perspective, Mixed Use



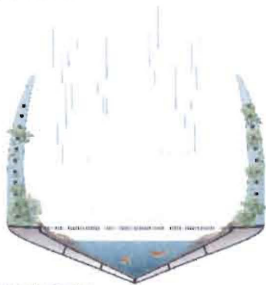
Exterior Program Perspective, Learning Garden

As the endpoint of the Regeneration Bridge, the pavilion signifies a transition space between the open growing environment and a communal organization. The ground level of the building houses the hub containing amenities such as a seed store, a repair area, and lendable farming equipment. On the second floor classrooms and learning gardens engage the neighboring public school. Recognizing the abundance of space within the structure, the program deliberately uses only what it needs, leaving the excess for the locals to reclaim. The addition of steel partitions defines the interior programs and highlights the existing bays. Where the bridge meets the pavilion, they fuse into one.



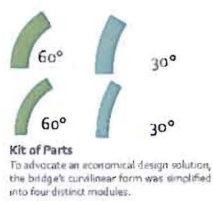


Aquaponics Plan



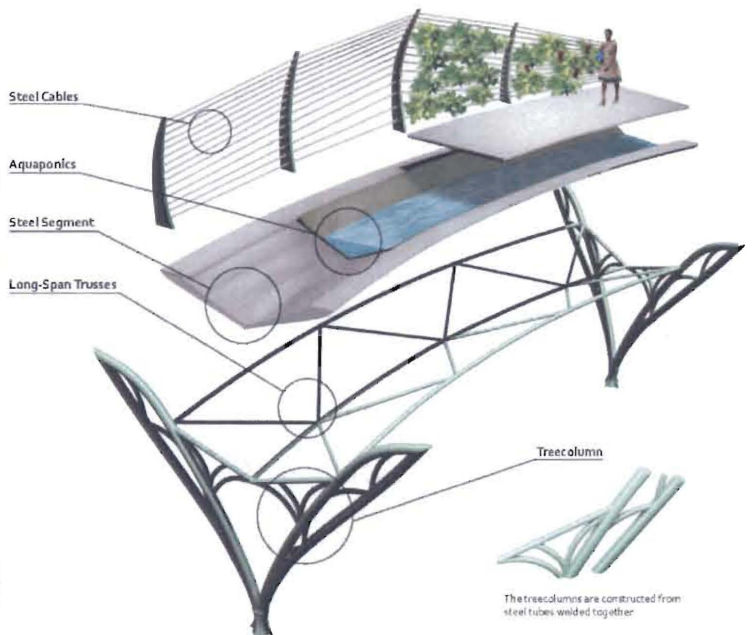
Aquaponics Section

Water is retained throughout the year in a trough cradled along the entire length of this Regeneration Bridge. Plant roots are allowed to grow through the grate pathway and into the trough, using the retained water as a soil substitute. An aquaponics system provides natural maintenance of the water and nutrients for the vegetation.



Treecolumn Ground Detail

To complement the bridge's monumental length, the structure's slender forms touch the ground at regular intervals with a minimum footprint.



WORKS CITED

"2012-13 Steel Competition." *Association of Collegiate Schools of Architecture*.

ACSA, n.d. Web. 27 Apr. 2014.

American Revolutionary: The Evolution of Grace Lee Boggs. Dir. Grace Lee.

Perf. Grace Lee Boggs. 2013. DVD.

"Aquaponics." Def. 1. *Oxford Dictionaries*. Oxford University Press, n.d. Web. 28 Apr. 2014.

Boggs, Grace Lee., and Scott Kurashige. *The Next American Revolution:*

Sustainable Activism for the Twenty-first Century. Berkeley, CA: U of California, 2011. Print.

Bouffard, Karen. "Detroit Children Dying in Culture of Violence." *The Detroit News*. Michigan Media Solutions, 31 Jan. 2014. Web. 28 Apr. 2014.

Brook, Pete. "Captivating Photos of Detroit Delve Deep to Reveal a Beautiful, Struggling City | Raw File | WIRED." *Wired.com*. Conde Nast Digital, 29 Jan. 2013. Web. 01 May 2014.

Comparing Detroit to three other major cities. Digital image. *Detroit Free Press*. N.p., n.d. Web. 29 Apr. 2014.

DeForce. Dir. Daniel Falconer. Perf. Nelson Jones. Detroit Documentary Productions, 2010. DVD.

"Detroit: History." *City-Data.com*. Advameg, n.d. Web. 01 May 2014.

Dowty, Norm. "Reusing Old Structures Offers a Greener Construction Model - Portland Business Journal." *Portland Business Journal*. American City Business Journals, 10 Aug. 2010. Web. 28 Apr. 2014.

"Ford's Assembly Line Starts Rolling." *History.com*. A&E Television Networks, n.d.

Web. 29 Apr. 2014.

Gallagher, John. *Reimagining Detroit: Opportunities for Redefining an American City*. Detroit, MI: Wayne State UP, 2010. Print.

"Green Roof Basics." *Vegetal I.D.* Vegetal I.D. Innovation & Development, n.d. Web. 28 Apr. 2014.

Main, Andreas. *Community Garden 'Spirit of Hope' in Detroit*. Digital image. *Andreas Main*. Wordpress.com, 16 July 2012. Web. 29 Apr. 2014.

Mogk, John, and Sarah Kwiatkowski. "OTHER VOICES: Urban Farming Should Take Root Here." *Crain's Detroit Business*. Crain Communications Inc., 18 Apr. 2010. Web. 01 May 2014.

Quaife, M. M. *This Is Detroit Two Hundred and Fifty Years in Pictures; 1701-1951*. Detroit: Wayne Univ., 1951. Print.

Spangler, Todd. "Detroit to Get \$24-million Federal Grant to Hire 150 Firefighters." *Detroit Free Press*. Gannett, 27 Nov. 2013. Web. 30 Apr. 2014.

Sugrue, Thomas J. *The Origins of the Urban Crisis: Race and Inequality in Postwar Detroit*. Princeton, NJ: Princeton UP, 1996. Print.

"Top 50 Cities in the U.S. by Population and Rank." *Infoplease*. Pearson Education, n.d. Web. 28 Apr. 2014.

Vacant Lots as a Percentage of All Parcels, By Block, 2009. Digital image. *Detroit Residential Parcel Survey*. Data Driven Detroit, n.d. Web. 1 May 2014.

"What Is Urban Agriculture? | Urban Environmental Program in New England." *EPA*. Environmental Protection Agency, n.d. Web. 28 Apr. 2014.

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